

## **ABSTRACT**

The present invention relates to membranes including an urethane including a polyester polyol, wherein the membrane has a gas transmission rate of 15.0 or less for nitrogen gas wherein the membrane has an average thickness of approximately 20.0 mils. Under certain embodiments, the membranes include blends of one or more polyester polyol based thermoplastic urethanes and one or more barrier materials. The membranes can be employed in a variety of applications and can be used as either monolayers or multi-layered laminates.